COMBINATION vs. AGGREGATION

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The constitution of the United States provides that "Congress shall have power . . . to promote the Progress of Science and Useful Arts by securing for limited times to Authors and Inventors the exclusive right to their respective writings and discoveries."

R. S. 4886 states that a patent may be obtained by "any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, etc."

It is therefore clear that Congress has limited the subject-matter of a patent to an invention, novelty and utility alone being insufficient to justify the grant.

Where a device is composed of but a single element, the question of patentability is simple, depending on whether the element is the result of invention or the product of mere mechanical skill; but, when two or more elements are grouped together, as in combined tools, machines, or the several steps of a process, a new question arises. Are the several elementary parts so related as to produce a legitimate combination and, if so, under what circumstances do they consitute a patentable invention?

The decisions of the Federal Courts, from the beginning of our patent system, have been remarkably uniform in respect to this matter, yet, judged by the nature of the patents granted, the practical distinction between patentable and unpatentable combinations or aggregations seems to be little understood by many. I therefore base the remarks which I shall make on a few of the decisions

which I have found most useful in determining the many cases which have come before me.

These are:

"To make a valid claim for a combination it is not necessary that the several elementary parts of the combination should act simultaneously. If those elementary parts are so arranged that the successive action of each contributes to produce some one practical result, which result, where attained, is the product of the simultaneous or successive action of all the elementary parts, viewed as one entire whole, a valid claim for thus combining those elementary parts may be made."

Furbush et al. *vs.* Cook et al., 10 Mo. L. R., 664, Curtis, 1857.

"Although three elements of a patented combination may all be old and two of them have been combined before, yet he who brings into the combination the third element, and thereby gets a practical advantage, makes a patentable invention."

Ib.

"Although a combination of old devices may be patentable when a new and useful result is produced, no one can, by combining several devices, each of which is old, thereby deprive others of the right to use them separately or the right to use them in new combinations, or the right to use some of them in combinations, omitting others."

Hailes et al. *vs.* Van Wormer et al., 7 Blatchford, 443, Woodruff, 1870.

"The mere addition of an old device, producing a specific result, to another device, producing its own result, in such wise that their combination produces those two same results, and no other, is not invention."

Ib.

"Patents may be granted for combinations in which some of the parts are old and some are new; and whatever in the several parts is new may be separately secured to the inventor; and yet it may be true that only in the combination described or in some similar combination, the new part thus secured to the inventor is of any practical use whatever."

Wheeler, Jr., *vs.* Clipper Mowing and Reaping Co., 10 Blatch., 185, Woodruff, 1872.

"Under the statutes patentee is required to particularly specify what he claims to be new, and if he claims a combination of certain elements or parts, we can not declare that any one of these is immaterial. The patentee makes them all material by the restricted form of his claim."

Union Water Meter Co. *vs.* Desper, 101 U. S., 332, Sup. Ct., 1879.

"A mere aggregation of old things is not patentable, and, in the sense of the patent law, is not a combination. In a combination the elemental parts must be so united that they will dependently co-operate and produce some new and useful result."

Wood et al. *vs.* Packer, 57 Fed. Rep., 651, Nixon, 1883.

"A combination is patentable (1) if it produces new and useful results, though all the constituents of the combination were well known and in common use before the combination was made, provided the results are a product of the combination, and not a mere aggregation of several results, each the product of one of the combined elements; (2) if it produces a different force, effect, or result in the combined forces or processes from that given by their separate parts and a new result is produced by their union; (3) if it either forms a new machine of distinct

character or formation or produces a result which is not the mere aggregate of separate contributions, but is due to the joint and co-operating action of the elements; (4) when the several elements of which it is composed produce, by their joint action, either a new and useful result, or an old result in a cheaper or otherwise more advantageous way."

Niles Tool Works *vs.* Betts Machine Co., 27 Fed. Rep., 691, Wales, 1886.

"A patent for a combination can not be maintained where nothing is done except to bring well-known devices into juxtaposition, each working its own effect, and the aggregate producing no new and useful result."

Kerosene Lamp Heater Co. *vs.* Littell, 3 Banning and Arden, 312, Nixon, 1878.

"There is no patentable combination, properly so called, in an aggregation of devices which have no common purpose or effect, concurrent or successive."

Tower *vs.* Bemis & Call Hardware & Tool Co. et al., 19 Fed. Rep., 498, Lowell, 1884.

"A broad claim can not be sustained for merely putting together two old tools for convenience of manipulation in several and wholly distinct uses—the patent must be limited to some patentable improvement, either in the mode of combining the tools or in one or more of the tools themselves."

Ib.

"To combine the parts of two existing machines, leaving the parts in the new union to work as before does not constitute a patentable combination, but merely an aggregation."

Troy Laundry Machinery Co. et al. *vs.* Bunnell, 23 Blatch., 558, Wallace, 1886.

"A patent for a combination is not invalid because all the parts are old. But merely assembling them together, or placing them in juxtaposition does not indicate invention. Some new or peculiar function produced by such a combination must be developed. Unless this follows, the new arrangement is the mere exhibition of mechanical skill."

Scott Mfg. Co. *vs.* Sayre, 26 Fed. Rep., 153, Nixon, 1885.

"The fact that an article is convenient and has commercial advantages does not render it patentable where it is made up of independent devices, each of which is unaffected by the presence or absence of the other."

Ex parte Davenport, C. D., 1904, 110.

From these it is clear that the patentability of a group of elements does not depend on their individual novelty, but upon their unitedly producing a new and improved result, the product of their combined operation, not the mere sum of their several individual effects. This result may be produced by the simultaneous or sequential operation of the elements, each upon the other or their co-operation in groups. If this united participation in the result is not present, then ordinarily no patentable combination exists, but an unpatentable aggregation, an arrangement lacking invention since based alone on mechanical skill.

The patentability of claims which involve several elements can ordinarily be readily determined by applying these tests.

Let A, B, and C represent several grouped elements. If their relation is $A + B + C$, their function or result being merely additive or the sum of their individual results, they constitute an unpatentable combination, whether new or old.

If their relation is $A \times B \times C$, each modifying the other or co operating singly or by groups and all mutually tending to produce a unitary result, they form a legitimate combination and, if the result is new and use-

ful, the device is patentable, but it does not follow that all legitimate combinations are patentable.

A × B × C is old in the art, and C^1, a modification or specific form of C, is substituted for that element.

If C^1 is an old and well-known equivalent for C, no new result is accomplished and the resultant combination is unpatentable.

If a new and improved result follows the substitution and this is due to the modifying influence of the substituted element on all the others, the combination is new and patentable.

If C^1 does not affect the functions of A and B, individually or in group, other than did C, adding only its own peculiar function to the result, the combination is not patentable over A × B × C, the broad combination being exhausted, and C^1 should be claimed by itself since in it alone does the invention lie. This is true whether C is new or old. It is not a new combination since the only modification of the result rests in the substitute element.

A × B × C being old, if C is omitted while the old result is maintained, a new and patentable combination results.

Richards *vs.* Chase Elevator Co., 73 O. G., 1710.

In special art tools it may be that each element accomplishes only its own result, but, if the several elements contribute by their operation to the production of a unitary improved result, unattainable in the absence of either, there is a legitimate combination. Such an instance is seen in the ordinary glass cutter, in which the scoring roll of the cutter combines with the breaking notch to produce the complete severance of the glass.

Lying close to, yet apart from this clearly defined field of combination and aggregation, is a twilight zone in which there appears to be no well settled practice either in the courts or Patent Office. This resides in that class of cases in which old elements are so positioned with respect to each other that, while each performs its own function, the ultimate effect of grouping the parts is the production of a better, more advantageous or cheaper result. Such cases are discussed in Burdett-Rountree Mfg. Co. *vs.* Standard Plunger Elevator Co., 196 Fed.

Rep., 43; Standard Plunger Elevator Co. *vs.* Burdett-Rountree Mfg. Co., 197 Fed. Rep., 743; and Krell Auto Grand Piano Co. of America *vs.* Story & Clark Co. et al., 207 Fed. Rep., 946, in the last of which it was held that a patent for a mechanism consisting of two or more elements is not necessarily invalid as an aggregation because there is no direct co-action between the elements, where such co-action comes to produce a unitary result through the mediation of the operative or the operating force, but without the court laying down any hard and fast rule of general application.

Perhaps a few concrete illustrations of this type of invention will in part clear the practice. It is old to form a flexible metal tube of small diameter and to form a web or braided cover about such tube by separate machines, also to feed tubes through their forming mechanism by drawing rolls. So positioning these devices as to have a pair of rolls for forming a small flexible walled tube, a means in direct alinement with the delivery outlet of the forming rolls to form a web or casing about the tube, and drawing rolls for feeding the product through the forming and casing mechanism, forms a patentable combination, as the direct line delivery insures the perfection of the tube at the point where the web is placed about it and the feed rolls maintain the direct alinement of the material while being worked upon. The parts work as before, but synchronism of operation is maintained by the tube as drawn through the machine and the perfected product is due to the consecutive operation of the several elementary machines without any deformation of the tube due to intermediate handling.

It is mere aggregation to place an oil can in the handle of a wrench so as to have a handy supply of lubricant in case a nut is rusted on its bolt. Change the position of the oiler, by recessing the inner face of the wrench jaw, fitting the oil can therein with its elastic wall projecting into the space between the jaws and place its jet orifice near the outside of the jaw face, and a new and advantageous result is produced. The first motion of the wrench handle forces the nut against the can, ejecting the oil upon the rusted parts, while continued motion in the same direction loosens the lubricated nut. This

is a clear combination due to the exercise of invention in so arranging or constructing the parts, each old in itself, that an improved result is produced. Thatcher Heating Co. *vs.* Burtis, 121 U. S., 286, justifies the grant of a claim for such a device.

To place a can opener on the handle end of a bottle decapping tool is an aggregation, since each produces its own result and no more.

Change the position of the knife edge to the inner curve of the fulcrum arm of the decapper, where it is protected, by the overhang of the decapper claw and fulcrum point, while the cam shaped back of the fulcrum arm serves as a rolling fulcrum for the can opening blade, and we again have a clear case of patentable combination due to change of position.

In the Tower *vs.* Bemis et al., decision, above noted, it is stated that there is no patentable invention in broadly combining two forms of wrench in a single tool. So position them that their joint operation is due to a single element and a patentable combination may result. Class 81-77 is made up of just such cases.

The same result follows where an intermediate jaw is placed between the jaws of an ordinary pair of pliers, doubling the efficiency of the tool by its co-operation with each.

While in cases like the above legitimacy of the combination must be admitted, care must be exercised that this positioning is not too freely treated as a ground for allowing claims.

Though the Constitution gives to Congress power to pass enabling legislation, I find neither in the Revised Statutes, nor in the decisions of the Federal Courts any authority for granting patents for structures which possess convenient and commercial advantages, but are made up of independent parts each of which is unaffected by the presence or absence of the other. I refer to aggregated tools or other parts in so-called articles of manufacture. "The beneficiary must be an inventor and he must have made a discovery. The statute has always carried out this idea. . . . So it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known,

and that it shall be useful, but it must under the Constitution and the statutes, amount to an invention or discovery."

Thompson et al. *vs.* Boisellier et al., 31 O. G., 377.

I will mention one more example, illustrating an extreme type, which yet has its advocates.

A ring having an inward extension on which is pivoted a screw-driver, adjacent lugs on the face of the ring with which the ends of the screw-driver may engage to hold the parts in fixed relation, when the screw-driver is not in use, and a twine cutter blade projecting from the exterior of the ring.

Herein is no community of operation, but rather a negation of results. The ring with its lugs protects the pocket of the carrier from being torn by the screw-driver blade, while the projecting blade of the twine cutter insures the opposite result. Graphically stated $+1-1=0$, and assuredly in such a case is neither invention nor utility. Each element may be patentable by itself, but where the result of their sequential use is the obliteration of any practical joint result, there can be no justification under the present law for the issue of a patent. For this reason I can find no justification for the theory that were the Reckendorfer *vs.* Faber (92 U. S., 347, Sup. Ct., 1875), case to be retried now, the Supreme Court would reverse its judgment, for there, as in the above illustration, we have as the only result of the alleged combination $+1-1=0$, means for making a mark, means for erasing the mark, conjointly producing nothing.

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